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SERVICE TAKES CENTRE STAGE



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s we bring the curtain down on 2020, I believe it will be remembered as one of the most difficult years as the industry considers the devastating aftershocks of this "Black Swan" event.

The COVID-19 pandemic caused vast economic breakdown across the world, as customer demand, industry activity and confidence collapsed. For the capital equipment sector, the pandemic had a dire impact on product sales. However, on the flip side, the service business has had an unprecedented opportunity to thrive.

I have spoken to a number of executives from different companies across different sectors of the capital equipment sector, and they all seem to sing from the same hymn sheet – there is a growing demand for service as fleet owners seek to sweat their existing assets, and want longer lifecycles from their equipment. This means that a strong maintenance regime is required.

I recently spoke to an executive from Multotec, who noted that processing equipment on mines is being pushed to the limits of its design capability, with higher tonnages placing more demands on equipment. Mines are therefore relying more on suppliers to maintain equipment and ensure that it performs optimally.

This requires closer working relationships between the supplier and customer; in the past suppliers would be called upon only when necessary.

As you will see in this edition of **Capital Equipment News**, EIE Group CEO Gary Neubert affirms that one of the key trends in the industry is that fleet owners are choosing to get as much use as possible out of existing assets rather than invest in new equipment during this period of economic uncertainty.

The same view is shared by Scania Southern Africa executives, who believe that the pandemic has brought to the fore the importance of the service arm of every original equipment manufacturer's business.

While the service business is thriving, customers have, however, become more demanding, with fleet owners choosing to deal with total solutions providers who can meet all their needs from one stable.

As companies strive to compete in a tough business space, big ticket purchases such as capital equipment take on a more important role. End users now need to evaluate everything that surrounds the product – from financing and maintenance contracts through to service support and insurance – in addition to the normal productivity and cost savings calculations already commonly used. This requires a great deal of experience in navigating the ever-growing pool of suppliers, along with answering many critical questions you didn't even know you should ask.

In the decision-making process, one of the critical considerations should be the ability to source all the end user's needs from a single supplier. It's much simpler in the long run to deal with a single provider. Having to purchase equipment that drives your business from different suppliers and being serviced by the different suppliers can be time-consuming and costly. I believe working with an established supplier means that you have access to reliable support, as well as to the parts and services you depend on for maximum uptime.



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PUTTING A DIFFERENT Spin on the total Solutions approach

The restrictions put in place to limit the spread of COVID-19 have had a widespread impact on the transport sector. To respond to the new realities and trends that have been brought to the fore by the pandemic, Scania Southern Africa has implemented several initiatives that 'put a different spin' to the total transport solutions approach, writes *Munesu Shoko*.

he impact of the COVID-19 pandemic on the transport sector – all the way from the original equipment manufacturer (OEM) to the transport operator and the freight owner – has been extensive. To respond to the new realities of doing business in such a challenging environment, Scania Southern Africa has implemented several initiatives to help fortify its business, but more importantly to enhance customer experience.

In March this year, the company went through a resizing/restructuring exercise to streamline the organisation. As part of this exercise, Mark Erasmus, who has many years' experince in the local transport industry, assumed the role of GM Sales, while Alan Hugo, who comes from a sales background and has been with the company for almost 14 years, took the

QUICK TAKE



Scania Southern Africa has implemented several initiatives to help fortify its business, but more importantly to enhance customer experience

role of GM Services.

In a one-on-one with **Capital Equipment News**, Erasmus explains the impact of the COVID-19 pandemic on the transport sector: from a volumes perspective, he says the total market for extra heavy commercial vehicles is around 20% down, while Scania Southern Africa is probably 25% shy of what the company had planned for the year.

While all segments of the market have been affected, Erasmus notes that the bus market hass probably been the worst hit.





Scania Southern Africa is placing a big focus on its parts logistics, the lifeblood of the organisation.



The company has created a completely new service structure



The new service structure affords Scania the opportunity to implement digitalisation and automation to streamline its processes, reduce waste and improve guality of service



Despite the lack of legislation around emission standards, Scania believes that the local market will on its own start moving from the current Euro 3 to Euro 5 technology

One of the biggest impacts has been the reduction in passenger transport demand, due to a combination of government lockdowns and fears of contracting and spreading the virus when using mass transport modes. "The bus market was largely affected by the restrictions on the movement of people, especially cross-border activity. The closure of schools and tourism also played a significant role," he says.

The impact, says Erasmus, is however "more than just a numbers game". He

believes the pandemic not only impacted on volumes, but the transport value chain at large, all the way from production to people and staff morale. From a production perspective, he says factories in Europe and Brazil were shut, leaving local production starved of kits to make trucks. Frome a people perspective, he says several people lost their jobs, which also impacts on the morale of the remaining staff.

"The impact is massive, but at this point I don't think we even realise the full extent. The impact is not purely a numbers game; it's the motivation, enthusiasm, people's lives and a whole lot more," he says.

Total solutions

The total solutions approach has always been one of Scania's key strengths in the market. The company has over the years set the benchmark when it comes to the one-stop shop approach, offering all the solutions a transport operator needs from one source, all the way from the truck and

TRANSPORT



Strong emphasis is being placed on the development of Scania Southern Africa's dealer network.



Alan Hugo, GM Services at Scania Southern Africa

financing that goes with it, to repair and maintenance (R&M) contracts, buy back options and insurance, among other services.

"The truth is that truck sales, delivering a unit, whether it's a bus or a truck, is not really a profitable business. That's a fact! The real revenue for an OEM comes from the services around the unit. On the other hand, customers' buying decisions are now largely influenced by the service the OEM can offer to them. We have seen a big demand for a total package approach," says Erasmus.

Scania is a true example of a one-stop shop in the local transport circles. "We have embarked on a number of initiatives, which have afforded us the ability to offer a true total solutions to our customers. We have definitely put a different spin to the total package approach. Everyone has been talking about this for a long time but no one has really lived it because of the islands within many organisations," says Erasmus.

"At Scania we saw the need to consolidate and earn an income across the total lifecycle of the truck. So the total solutions approach is not necessarily new to us, but it is now more focused, which gives the customer peace of mind. When you look at the customer, you don't only see them as a recipient of a truck, you view them based on the whole income stream they deliver to your business as an OEM, which changes the whole perspective," he adds.

Key changes

With the restructure in March, Hugo explains that the company took the opportunity to create a completely new service structure. "We have created a much more compact management structure in the services division. With Parts Logistics – the lifeblood of the organisation – being a key focus. The overall objective is to ensure that we provide our customers with the highest levels of uptime," he says.

The second department within the services division is commercial services, and within this realm is Scania's contracted services. "We are placing greater focus on this portfolio as part of our drive to become more relevant to our customers and bring a lot more value to their businesses," says Hugo.

Another department within the services division is connected services. Hugo says there are several initiatives in place in this area to create stronger collaboration or connectedness between service and contracts.

Another key part of the services organisation is parts sales, with a key focus on making sure that the parts mix is always on point. This department is going to inject 'fresh' money into the company as well.

"We have also created a department focused on digitalisation of service processes. The department seeks to incorporate or implement tools and processes in the services organisation to streamline our activities, improve quality and reduce duplication and potential waste. It will also focus on implementing different autonomous or digital solutions to help us with cost management and improving customer experience," says Hugo.

The services operations department is another key pillar of the services division. This department is the custodian of solutions such as warranty, product support and the call centre (Scania Assist).

"The last, but not the least, is the network development department. This is about making sure that we are in all the right areas, ensuring that all our dealers, either captive or non-captive, are operating at a high level, maintaining greater levels of competence to drive our business, but more importantly to make sure that we can sustain all our customers across our footprint," adds Hugo.

FALKING POINT



Scania delivered its first fleet of PBS trucks to one of its biggest customers in South Africa this year.

Commenting on the reasons behind the new services structure, Hugo says the main driver is that Scania Southern Africa wants to differentiate itself from its competitors and make sure that the company has that 'X-factor'. Additionally, the company needed to "bring fresh money" into the business, while offering a lot more value to the customer.

"We also took this route as a way of improving cost management and protecting cash flow, but at the same time, improving our value offering to the customer, making sure that they see consistency in the way they are treated or in the service levels they receive from Scania, regardless of where they are within our footprint," he says.

"The new structure also afforded us the opportunity to implement digitalisation and automation solutions to streamline our processes, reduce waste and improve quality of service by utilising the different tools at our disposal," adds Hugo.

New trends

One of the key trends Erasmus has noted in the current COVID-19 environment is the move towards bigger loads and less strain on infrastructure. He believes that the Performance-Based Standards (PBS) approach to trucking definitely has a place in the local market. Scania South Africa delivered its first fleet of PBS trucks to one of its biggest customers in South Africa this year. The PBS – an alternative regulatory framework for governing heavy vehicles – pushes the limits by allowing for increased payload, while specifying stringent safety measures, thus decreasing the costs of transportation significantly.

Also known as 'Smart Trucks', these are developed and regulated according to a PBS framework, which has proven highly successful in Australia, New Zealand, Canada and parts of Europe. The South African pilot project was initiated in 2004, and grew to include 245 demonstration vehicles in various industries by 2018, which are closely monitored for impact and performance.

Over 100-million km of data have been collected and processed to date, indicating overall net benefits of the PBS framework, including: a 12% reduction in fuel use and emissions, a 13% reduction in road wear impact, 39% reduced road crashes, and 22% fewer truck kilometres travelled on South African roads.

"PBS is a segment I believe will grow, especially in the bulk commodities space, such as chrome, manganese and coal. It makes sense for the transporter, as well as the government in terms of infrastructure – less vehicles on the roads means less damage to infrastructure," says Erasmus.

Another key trend that has come to the fore, says Erasmus, is that more and more transport operators have become invested in the total operating costs (TCO) discussions, with PBS being an example of that. "In that vein, we have seen a big interest in alternative fuels. There is a lot of interest in gas, whether its compressed natural gas (CNG) or liquefied natural gas (LNG)," says Erasmus.

"Apart from alternative fuels, customers

are also looking at better technology to improve efficiency. If the OEM has a vehicle with newer technology, offering between 10% and 15% better fuel efficiency, it makes sense to look at that particular option, and that's what customers are doing," he says.

Despite the lack of legislation around emission standards, Erasmus believes that the market will on its own start moving from the current Euro 3 to Euro 5. "I think the move will be driven by the market on its own as customers see the benefits of these new technologies," he says.

"OEMs are no longer investing in R&D for Euro 3. All the money and effort is being spent on Euro 5, Euro 6 and even Euro 7. So the longer we stay clung to Euro 3, the bigger the gap that's going to be created between what a customer is paying for fuel today and what they could be potentially paying if they had decided to switch to better technology. I think the COVID-19 scenario has reinforced the need for this approach as transport operators seek to improve their efficiencies."

To support this move, Scania has just brought in Euro 5 demo models in the local market which are being run by selected customers. The first of the Euro 5 demo units came off Scania South Africa's production line on 17 November. "We want customers to experience this technology first hand. However, to support Euro 5 technology in the local market, we need a secure supply of ad blue, which is a challenge at the moment," concludes Erasmus. The Toyota Forklift business constitutes almost 80% of EIE Group's overall business.



NEW REALITIES IN THE INDUSTRIAL EQUIPMENT SECTOR

Amid the COVID-19 pandemic, the industrial equipment sector has had to adjust to a quickly shifting business landscape. In a one-on-one with Capital Equipment News, EIE Group CEO Gary Neubert unpacks some of the new trends and new realities of doing business in the sector, writes Munesu Shoko.

hat the COVID-19 pandemic has compelled companies to rethink their businesses is no overstatement. Despite having to negotiate the uncertainties around the pandemic, EIE Group CEO Gary Neubert believes that the pandemic has had several spin-offs for the industrial equipment sector, but has changed the "way we think about and conduct business".

With representation across southern Africa, the United Kingdom and Ireland, the EIE Group, part of the larger JSElisted enX Group, offers a total industrial equipment solution through a wide range of materials handling and industrial equipment solutions from globally renowned brands. The EIE Group is split into three divisions: Toyota Industrial Equipment, Heavy Lift and 600SA.

Commenting on the state of the business, Neubert says operating in the COVID-19 environment has been incredibly tough, but the EIE Group had a contingency plan from the onset. "Within a few hours of President Cyril Ramaphosa's announcement of the lockdown in March, we had already put up a business continuity plan. Part of this plan was to set up

our staff to work remotely, as well as registering the business as an essential service provider because we supported a lot of essential services businesses," he says.

The business operated throughout the lockdown and performed really well from a cash flow point of view, despite a squeeze on the revenue and profits. Commenting on some of the current scenarios in the market, Neubert says new equipment sales are obviously under severe pressure with an overall drop of 40% compared to last year, but the operations side of the business - rental, pre-owened, service, maintenance and parts - is doing "exceptionally well" under the circumstances.

EIE Group uses a business model termed the 'four links' in the chain', where it distributes, rents out the product, adds value through parts, service, maintenance and preowned. "We classify the value add and rental side of the business as aftermarket, and this has always been 60% of our business. However, in the current environment, aftermarket now constitutes between 75% and 80% of our business. That's what has made us strong amid the current COVID-19 influenced challenges," he says.



business was split 50:50 between rental and cash sales. This has since shifted, with rental now contributing 70% compared to the 30% from sales. Many customers are moving to rental as a way of conserving their cash amid the current uncertain business environment. They are not outlaying huge amounts of cash on capital equipment. That's one of the big trends we have seen in the market," he says.

The other big trend, adds Neubert, is that fleet owners are 'sweating their existing assets' rather than investing in new equipment during a period of economic uncertainty. "Instead of replacing, they would rather maintain the existing equipment for longer, thus sweating their assets to postpone their fleet replacement cycles," he says. Neubert says this approach has been a big contributor to the growth of EIE Group's aftermarket business.

"We are happy that customers are taking the rental route, which bodes well for our operations business because rental units are issued with maintenance contracts. Similarly, it works well for us that customers want to sweat their assets, because we get to provide the parts and service required to keep these machines running for longer periods without any issues," he says.

New realities

Commenting on some new realities in the industry, Neubert says customers have become more demanding and the market has become very competitive. "We are now working closely with our customers to help them streamline their businesses and bring down their costs, which is a major issue for them right now," he says.

A big adjustment for industrial equipment suppliers and the capital equipment sector

EIE Group supplies Konecranes lifting equipment, including container lift trucks, reach stackers and forklift trucks.



Despite having to negotiate the uncertainties around COVID-19, the pandemic has had several spin-offs for the industrial equipment sector, but has changed the way companies think about and conduct business



There is a big shift towards rental as fleet owners desist from large capital outlays associated with outright purchase

Instead of replacing their assets, fleet owners are opting to sweat their existing assets by maintaining them for longer, thus postponing their replacement cycles

EIE Group has implemented a full digital transformation strategy that is changing what was the norm, and taking a legacy industry from a paper-heavy production into the digital space



STATE OF MARKET – INDUSTRIAL EQUIPMENT





EIE Group supplies the Link-Belt range of mobile cranes.



"We are happy that customers are taking the rental route, which bodes well for our operations business because rental units are issued with maintenance contracts. Similarly, it works well for us that customers want to sweat their assets, because we get to provide the parts and service required to keep these machines running for long periods without issues."

Gary Neubert, EIE Group CEO

at large is the need to start using a lot more technology in their processes to become more effective and efficient in the way they conduct their business.

"Our industry has to become a lot more effective and efficient in how we run our businesses from a digital perspective. The big opportunity for us is the packaging of related products into our current stable and promoting our offerings online, as well as encouraging customers to do more of their research online to better understand the products," says Neubert.

The COVID-19 pandemic, he adds, has had several positive spin-offs for the EIE Group and has compelled the company to change the way it thinks about and conducts its business. The silver lining, says Neubert, is that the most agile and change-fit companies will survive through this and come out a lot stronger.

"It is, however, not just sales and marketing that benefit. We have implemented a full digital transformation strategy in the business that is changing what was the norm, and taking a legacy industry from a paper-heavy production into the digital space. Every investment in technology has an end in mind – and our end is to streamline operations that ultimately improve the business and the customer's experience."

Neubert says the company has digitised its account management processes to improve customer experience. For example, on the aftermarket side of the business, the company has removed the paper trail in its processes by migrating from paper job cards to digital. "All our technicians have been issued with tablets, allowing them to access all the job cards digitally. Technology has become a big factor in our business, but the single biggest new reality is that we are now working closely with our customers to find ways of reducing their costs and help them run a more effective and efficient fleet," says Neubert.

However, he reiterates that no textbook can teach business leaders how to deal

with a situation such as the COVID-19 pandemic. Agility is key and businesses need to be in a position where they can adjust quickly, he says.

Opportunities abound

Neubert expects the next 12 months to remain incredibly tough for the industrial equipment sector. However, he believes that the EIE Group has done its homework and is well positioned to weather the storm. Neubert sees a lot of growth opportunities even in an economy that is expected to contract significantly.

"The next 12 months will be tough, but we as a business are well positioned to maximise the opportunities that are there and we are going to be pushing hard on the operations side of our business and also grow our 600SA footprint in the Western Cape," he says.

With branches in Johannesburg and Durban, the 600SA business has always used a dealer approach in the Western Cape. This is all changing with the recent acquisition of Uni-Cape Equipment, a lifting equipment entity in the Western Cape. Neubert believes that businesses going into a downturn with a strong balance sheet are positioned to make the most of opportunities by acquiring assets at reasonable prices.

EIE's vision is to double Uni-Cape's size over the next few years and make it a more significant player in the industry. However, the major reason behind the acquisition of Uni-Cape Equipment was to afford 600SA a branch in the Western Cape. "The decision to acquire Uni-Cape Equipment



was prompted by a review of our 600SA business model. 600SA is largely a truck-mounted crane and waste compactor business and we wanted it to have a similar business model to the Toyota Forklift side of our business," he says.

"We have 600SA branches in Johannesburg and Durban, but no representation in Cape Town. We had two options; set up a branch from scratch, which is expensive and time consuming, or acquire a business with a good reputation and similar culture to ours," he adds.

With its 35-year history of supplying cranes, lifts, docking equipment and pallet trucks in the Western Cape, Uni-Cape was a perfect fit for EIE Group. Neubert says while the business will become a branch of 600SA, it will retain its unique branding and offering. Because Uni-Cape is a well-known brand in the Western Cape, it will remain a standalone business, but EIE will enhance its product range with CT Power forklifts, a Toyota-owned Chinese brand, Orakci, a Turkish range of waste compactors, as well as Sinoboom aerial platforms.

"One of the greatest benefits that Uni-Cape offers is its relationship with Stab-A-Load, which specialises in warehouse doors and dock levellers, among others. We have always wanted to operate in that market and this will be a good opportunity for us to do so in the Western Cape," notes Neubert.

Uni-Cape also brings Palfinger marine and truck-mounted cranes to the product mix. Until recently, 600SA had the Fassi range of truck-mounted cranes in its suite of offerings. The relationship was, however, terminated by mutual agreement at the beginning of this year. Uni-Cape's Palfinger product range will ensure that the EIE Group can continue offering marine and truck-mounted cranes.

Neubert is also encouraged by the company's recent launch of its TUF Forklifts business, a purely used forklift division. The business provides an extensive range of quality used forklifts and battery-electric equipment, including all makes and models over 10 000 hours at competitive prices.

"The TUF Forklifts business allows our salespeople a fantastic opportunity to trade in any brand of forklift. We are not necessarily going to promote our competitors, but it opens the door for our customers to be able to trade in any make they have within their stable for a new forklift from us," concludes Neubert. ©

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UNPACKING ADVANCEMENTS IN Hydraulic hammer technology

Technological advancements in hydraulic hammers in recent years have ensured proper operation, enhanced breaking efficiency, minimised operating costs and the time associated with completing tasks, thus helping fleet owners achieve long-term productivity and cost efficiency, writes *Munesu Shoko*.

> • o remain competitive in today's challenging economic environment, quarry owners are looking beyond the basics. They are looking at how their equipment can squeeze more margins and volumes, and a strong attachment focus is gaining momentum.

Quarry owners understand that a key factor in succeeding with any fleet of equipment, especially excavators, is getting the most out of the machines. Attachments are key to equipment versatility and utilisation. Using various tools and attachments can turn excavators from one-dimensional pieces of equipment into multipurpose and adaptable machines.

For many years, attachments have always been designed to enhance equipment fleets. While that likely won't change, advancing technology in hydraulic hammers – probably the most popular type of machine attachment – means today's equipment operators can benefit from innovations that are taking accuracy and breaking efficiency to a whole new level.

Blank-firing protection

One of the most recent technological advancements in hydraulic hammers is the blank-firing protection feature. Blankfiring occurs when the operator activates the hammer without the tool engaged with the material to be broken. In such an event, the energy of the piston striking the tool has nowhere to go but back into the hammer and the carrier machine. The effect of blank firing is increased wear on both hammer and machine.

Thus, blank-firing protection is designed to minimise wear and tear that the hammer faces. By employing blank-firing protection, the hammer can be protected from direct metal-to-metal contact, thus guarding against premature deterioration. Reducing the stress transmitted back to the carrier machine also has the additional benefit of providing



stitis

The non-silenced GC hammer is built to handle high productivity applications.

A Cat hammer deployed to break rock in a quarrying application.



a substantially more comfortable environment for the operator.

"Blank firing protection is key to ensuring the piston will not cycle after the tool penetrates the material," explains Gilles Ronnet, demolition product application specialist, EAME region at Caterpillar. This, he says, reduces internal stresses and protects the assets, both the hammer and the carrier. "This feature lowers owning and operating costs and is operator friendly."

Ronnet says Caterpillar is developing different combined technologies for both machines and hammers. Caterpillar has integrated a hammer auto-stop function in the Next Generation machines, which alerts the operator of blank firing after 15 seconds, and automatically stops the hammer after 30 seconds if the operator doesn't stop hammering, as per good practice. The new safety feature protects both the hammer and the machine and reduces drastically customers' maintenance costs.

"The auto shut off feature instantly stops the piston when breaking through material. It prevents blank firing, which is a top cause of hammer wear. Internal stresses are reduced, providing more productive hours of work. The hammer is protected, regardless of operator skill level," he says.

More innovations

Another technological advancement of note is the energy recovery valve, which



Caterpillar offers several hammer line-ups with product deliverables satisfying different customer requirements with different technologies.



Caterpillar is launching its PL161 asset tracker and locator.

is designed to increase the striking power of the hammer by transferring recoil energy to the tool's next blow. "Energy recovery is using the bounce energy of the piston to help it cycle down in combination with the pressure of the accumulator," says Ronnet.

Speed control is yet another technological advancement that has come to the fore in recent years. This feature offers increased productivity and minimises backflow of harmful energy to the excavator. According to Ronnet, speed control adapts the speed and consequently the power of the hammer to the material being broken, resulting in optimum productivity.

"This feature – with two manual turns on the side of the power cell – doubles the piston speed without reducing the power. The slower speed allows the hammer to hit at full power. This allows for maximum production and matches the hammer speed and power to the application," says Ronnet.

Caterpillar offers several hammer line-ups with product deliverables satisfying different customer requirements with different technologies. The E performance hammer line-up based on oil-fired technology matches carriers in the 11 to 52-tonne weight category. The silenced hammer line is recommended for high-time utilisation and high productivity.

Caterpillar's E Series is a good example of forward momentum in hydraulic hammer development. The range comes with a number of features that set the bar high in the

hydraulic hammer field. For example, the tri-suspension system comprises the suspension jacket, the lower and upper buffers. Suspension aligns the power cell and gives manageable, smooth performance.

The lower and upper buffers, at both ends of the power cell, absorb reflective forces, isolating them from the machine. The result is quiet, reliable operation and reduced operator fatigue. The suspension jacket, which dampens vibration and sound, allows the hammer to be used in urban and other noise sensitive areas.

With the seal carrier, gas is retained in the power chamber by a series of five seals. These are engineered using technology developed for Cat engines, and provide maximum gas retention between scheduled service intervals. When service is needed, the seal carrier is easily removed.

A pressure control valve (PCV) maintains maximum hydraulic pressure to ensure the hammer delivers all blows at full power. PCV can be easily checked and adjusted from outside the hammer in about 30 minutes. A check valve isolates harmful pulsation spikes from the carrier hydraulic circuit.

The plug & perform feature is designed for convenient installation on Cat machines. There is no adjustment necessary for hydraulic pressures or flows. The hammer handles full auxiliary flow and pressure, automatically adjusting to match the Cat tool carrier. Hammer over-speeding and shortened service are prevented.

The GC value hammer line based on gas-fired technology is ideal for 12

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Blank firing protection ensures the piston will not cycle after the tool penetrates the material.

to 40-tonne carrier weights. The nonsilenced hammer is built to handle high productivity applications and is designed to fit customers' budget requirements.

Tharen Peterson, product application specialist, attachments for machines under 10 tonnes at Caterpillar, says the silenced H hammer line-up based on gas fire technology matches carriers from 1 to 10 tonnes, as well as skid steer loaders, compact track loaders and backhoe loaders.

The B series is also a gas-fired hammer that matches carriers from less than 1 to 10 tonnes, as well as skid steer loaders, compact track loaders and backhoe loaders. The hammer range comes either silenced or non-silenced, and is offered with fewer features and just as much capability with budget requirements in mind.

Knowing where your tool is

In addition, Caterpillar is launching the PL161 asset tracker and locator. Every Cat hydraulic work tool (for machines above 10 tonnes) – as first phase of deployment starting in May this year – will be shipped from the factory with this device that allows operators to keep track of tools and record working hours accurately to schedule the necessary preventative maintenance.

The PL161 locator is said to be the most advanced OEM integrated technology solution for attachment tracking. With the ability to track location and utilisation, users can know where their attachments are across all worksites, reduce the number of lost attachments and plan for attachment maintenance and replacement.

"The PL161 attachment locator can be used on attachments and non-powered assets as an affordable option for last known location tracking, and it integrates easily into users' operation for full fleet management of machines and attachments from one dashboard on a smartphone or a tablet," Ronnet explains.

"A work tool recognition system has been added to the Next Generation machines, allowing an automatic hydraulic setting adjustment. All these features are now available on Next Generation Cat machines and work tools and are part of the Cat fleet management system," explains Ronnet.

As with some of the features on the Cat B and H hammers, Peterson says Caterpillar is constantly looking at the portfolio and determining what functionality is offered throughout the line. What makes sense on the larger hammer and machine offering, he says, may not yet be a customer requirement on the 10-tonne and under class.

"As such, the auto-stop function is not part of the less than 10-tonne offering at this point. Similarly, on the compact construction equipment side, the PL161 will not be installed on the 10-tonne and under attachments as this has not become a requirement in this size of attachments, yet. Across the line, we intend to bring value to our customers. Again, what works on the larger machines and attachments may not yet be a requirement for the compact construction segment. We have that flexibility to offer what different customer groups require," explains Peterson.

Like any other piece of equipment, regular maintenance of hydraulic hammers is of utmost importance to minimise wear and tear, increase efficiency, productivity and lifespan. Thus, hammers should be inspected on a regular basis to identify any wear and tear signs. All the indicators showing wear and tear on the console of the hammer, for example, must be checked periodically. This can lead to identification of the damages at an early stage before they become big and costly issues.

"Maintenance is key for an optimum hammer life and for reducing maintenance costs," says Ronnet, adding that the right machine, hammer choice and commissioning are also key parameters of importance. "All the hydraulic parameters – right flow at right pressure, back pressure check and relief valve setting – have to be set properly," he says.

Training is also key for optimum productivity and reduced maintenance costs. "This is part of Caterpillar's standard delivery process, we deliver both iron and expertise," concludes Ronnet. ©



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MARKET REVIEW 2020: STATE OF THE INDUSTRY AND THE WAY FORWARD

The year 2020 has been one of upheaval and uncertainty. We turn to Babcock and Pilot Crushtec to find out how the COVID-19 pandemic and the ensuing lockdowns have affected the local construction equipment, plant services, transport, as well as the crushing & screening sectors. By *Mark Botha*.

he global economy entered a deep recession in 2020, with the world economy slowing down drastically due to the COVID-19 pandemic. With businesses shut down to contain the virus, global equity markets posted their worst three-month decline since the Great Financial Crisis of 2007/2008, according to the International Monetary Fund (IMF).

Construction equipment, plant services and transport solutions company Babcock, and Pilot Crushtec International, a major player in the crushing and screening sector, share their takes on the state of the economy and on the way forward.

The year 2020

The year 2020 will most certainly go down as one of the most challenging ever, not only in the South African economy, but in the global economic environment as well, says Pilot Crushtec sales and marketing director Francois Marais.

"We have been fortunate enough to continue to trade, with stable activity levels, predominantly in the commodities markets."

He says aggregates, on the other hand, seem to have had a much deeper decline than commodities and the construction

and civils industry activity levels have not been as buoyant as experienced in the previous fiscal period.

"A lack of private and government investment in infrastructure has affected our aggregate clients greatly. The construction market appears to have been one of the hardesthit industries as a result of the COVID-19 pandemic."

David Vaughan, MD of Babcock's equipment business, singles out the month of April as particularly difficult for the company, as well as for the majority of its customers, as the lockdown in South Africa came into effect.

"The Babcock Group was designated an essential services provider and, as such, we were able to offer our customers ongoing service and back-up while adhering to the government-instituted regulations and protocols."

He notes that "most, if not all" mining operations remained open to some degree but that many other sectors were severely impacted.

"A very slow recovery was evident from May onwards," he says.

Key trends in 2020

"We have certainly seen an increase in clients opting to repair equipment as opposed to replacing it, and a sharp increase in





interest in pre-owned units, as clients opt for more cost-effective solutions to their most urgent requirements," says Marais.

He says financial institutions are as cautious as ever in this volatile environment as they try to navigate the risk, and that credit applications take longer to approve.

"We also found that the time frames for credit approvals seem to have been extended. They are now much longer than ever before."

The uncertainty which characterised 2020, especially in light of the COVID-19 pandemic and the ensuing lockdowns the world-over have, according to Vaughan, caused a slow-down in business processes.

"A number of pending contracts and, subsequently, equipment orders were delayed and put on hold as companies adopted a 'wait and see' strategy to ascertain the exact impact of the pandemic on the price and demand for commodities and on the economy in general."

Surviving the downturn

To survive an economic downturn much worse than the global financial crisis of the early 2000s, Marais recommends that businesses "stay calm" and adjust to the



A Pilot Crushtec service technician visiting a mining client.



"We have seen an increase in clients opting to repair equipment as opposed to replacing it, and a sharp increase in interest in pre-owned units, as clients opt for more cost-effective solutions to their most urgent requirements."

Francois Marais, sales and marketing director, Pilot Crushtec International



"We remain optimistic that the capital equipment market will show signs of modest recovery during 2021."

David Vaughan, MD of Babcock's equipment business

new reality.

"Having a calm and considered approach to adjusting our business in order to survive the volatility has allowed us to continue trading without panic," he says. "Our own experience through the pandemic has shown us that panic and rash decisions can have dire consequences."

He says a calm and tactical approach to adjusting the business to manage the decline in revenue and cash flow has allowed Pilot Crushtec to stay focused and to continue with the activities that add value to the clients and, ultimately, to the business.

Vaughan recommends that companies ensure that they are as efficient and productive as possible in these tough economic times.

"Self-analysis and taking the necessary action to remedy issues remain crucial in order to ensure sustainability."

He says there are always opportunities that present themselves during downturns such as this one.



"One has to take advantage and capitalise on these when they become apparent," he says. "This is also an ideal time to 'clear the decks', and to resolve any long-outstanding issues that may need attention."

Most importantly, he says, it remains imperative that the pandemic is not used as an excuse to justify below-acceptable levels of service to the customer.

The future

The International Monetary Fund projects a 2021 GDP some 6,5% lower than the pre-COVID-19 projections for January 2020, yet both Babcock Equipment and Pilot Crushtec remain positive about 2021.

"We remain optimistic that the aggregates market will, at some point, turn from its decline, and that government infrastructure projects will be forced into action," says Marais. "We will continue to grow our expertise and our offering to the commodities environment, and we hope to become even stronger in this market."

Vaughan says that, barring a second wave of COVID-19, "we remain optimistic that the capital equipment market will show signs of modest recovery during 2021 driven mainly by the mining industry."

"Although COVID-19 has had a dire impact on our economy, our social environment and our business practices," says Marais, "we have seen new innovations and a new way of thinking about doing business emerging from this situation.

"We have embraced some of the practices which we believe will continue long after the pandemic has disappeared. This new reality will enable us to engage with even more clients more often, adding even more value to the industry in ways which would previously have been frowned upon."

Experience the Progress.



Liebherr has decades of experience in the development, design and production of components. The comprehensive range of Liebherr components includes diesel engines, hydraulic pumps and motors, hydraulic cylinders, large diameter bearings, gearboxes and rope winches, electric machines and electric and electronic control technology and components. The emphasis is on the development of complete assemblies and comprehensive system solutions. They are a benefit not only for many Liebherr machines but also for external companies that value the high quality standard of Liebherr components.

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DEEP FOUNDATION AND MATERIALS HANDLING



The LRB 23 offers an impressive engine output of 600 kW to deliver the necessary capacity for all common deep foundation work.

The LR 1250.1 unplugged has a maximum lifting capacity of 250 t.

THREE NEW MACHINES FROM LIEBHERR

Innovations have been the driving force at Liebherr-Werk Nenzing GmbH from the very beginning, and the year 2020 is no exception, with product developments in full swing. In a recent virtual event attended by *Capital Equipment News*, the company unveiled three new machines from the fields of deep foundation, material handling and lifting. A key talking point is the unplugged range, said to be the world's first battery-powered crawler cranes, writes *Munesu Shoko*.

iebherr has launched three machine ranges to the global market, the LRB 23 compact piling and drilling rig, the HS 8070.1 heavy duty cycle crawler cranes and the LR 1200.1 and

LR 1250.1 unplugged, said to be the world's first battery-powered crawler cranes.

All colour compositions in the latest generation combine the classic Liebherr yellow with new black, grey and white accents. The design reflects how the company's longstanding tradition and company values unite with advanced technologies. The elegant colour scheme prevails through all product groups and lends the machines a distinctive look and immediate recognition.

The new design focuses on higher levels of safety, anchored by improved platforms and railings on the uppercarriage. Thanks to the additional add-on wing for mounting lights or cameras, the design is more flexible on the whole. <image>

Inside the new cabin, the operator experiences immediately how the overall concept fits harmoniously together: reduced noise, panoramic view and pure operator comfort. This is achieved through a modern air-conditioning system with improved airflow, an optimised field of vision and an orthopaedic operator's seat with integrated heating and cooling. Additional safety is provided by the stone protection, even in tough applications.

Continuation of a success story

The new LRB 23 compact piling and drilling rig closes the gap between the LRB 16 and the long-proven LRB 355. The new all-rounder for deep foundation work offers an impressive engine output of 600 kW to deliver the necessary capacity for all common deep foundation work, such as drilling with a Kelly drill, double rotary drill, full displacement equipment and continuous flight auger, as well as soil mixing and applications with a vibrator or hydraulic hammer.

Its compact design allows for transportation of the LRB 23 in one piece, thus simplifying mobilisation between jobsites. The remote control simplifies the loading process for transportation as well as the assembly of the machine.

The advantages of the machine are proven in operation as it can withstand high torques even in Kelly drilling, which is unique for a machine of this size. The rotary drive BAT 300 delivers a maximum torque of 300 kNm.

Locking of the Kelly bar's telescopic sections is made significantly easier with the aid of the Kelly visualisation system in the LRB 23. Thanks to the real time display of the Kelly bar's locking recesses on the cabin monitor, the operator is permanently informed about the actual distance to the next locking recess. Colour indications inform when the bar can be locked. Furthermore, false positioning of the Kelly bar during the shake-off process is indicated through a warning signal.

During continuous flight auger drilling the concreting process is automated thanks to the drilling assistant. All assistance systems contribute to time savings, higher availability of the machine and a significant increase in safety during operation. The newly designed piling and drilling rig convinces through precision, high performance and a long service life.

Versatile and Flexible

With the brand new HS 8070.1, Liebherr is showcasing the new generation of duty cycle crawler cranes. The machine has a lifting capacity of 70 tonnes and is the first choice for a multitude of applications: material handling, deep foundation or lifting work.

Using the new self-loading system (Jack-Up System) the crawlers can be easily disassembled for transportation, thus reducing the transport weight to less than 35 t. The platforms and railings must no longer be removed before transporting.

Instead of a single counterweight, the machine now has a modular system. The duty cycle crawler crane can be individually equipped depending on the application. Further, the boom of the HS 8070.1 is compatible with the HS 8100.1. Therefore, customers can use attachments such as the slurry wall grab HSG 5-18 on both

machines and install thicker slurry walls with a more compact machine.

As opposed to the fixed system, the new floating A-frame system ensures higher performance in dynamic applications. It also simplifies and speeds up the assembly and transportation of the machine. The user-friendly design extends to the tank neck, which is easily accessible via a platform on the uppercarriage – a perfect example of the modern design strategy.

World's first battery-powered crawler crane

The LR 1200.1 and LR 1250.1 unplugged are the world's first battery-powered crawler cranes. Both are driven by electric engines with a system performance of 255 kW.

There are no compromises regarding performance or availability when compared with the conventional versions. The LR 1200.1 unplugged has a maximum lifting capacity of 200 t and the LR 1250.1 lifts 250 t.

The blue accent in the colour composition, which lends the distinctive look to the unplugged series, symbolises the electric solution, representing an advanced technology. The unplugged cranes achieve the best possible combination of operator benefit, efficiency and environmental sustainability.

Thanks to zero emission and low noise, the new machines are ideal for inner city work. That is a huge advantage in areas sensitive to noise and also for the people working on the jobsite.

The cranes can be recharged on a conventional jobsite electric supply (32 A, 63 A) in 4,5 hours and optionally with 125 A in 2,25 hours. The capacity of the battery is designed for four hours lifting operation. In accordance with their name, the cranes can be operated without a cable, thus "unplugged" thanks to the battery-electric drive design.

"The year 2020 has taught us that one must be open-minded and bold to break new ground. With our unplugged cranes we offer our customers an alternative drive design. As we have already seen with the LB 16 unplugged, the first battery-powered drilling rig, the strategy is a complete success. Strict requirements regarding environmental sustainability in tenders for construction projects increase the demand for advanced technologies. For us, it was clear that we extend and successfully establish the design across several product groups," says Gerhard Frainer, MD for sales at Liebherr-Werk Nenzing GmbH. 👁

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EXAMINING THE LIFETIME COSTS OF FABRICATED PARTS FOR VIBRATING SCREENS

One of the ways operation managers naturally presume to increase profits in a mining or aggregates operation is to cut costs. Parts are often an area that production managers eye as a way to save money, but it's important to look beyond the price and understand the part that a component is playing in the performance of a vibrating screen and long-term productivity. By *Duncan High*, processing equipment technology division manager, Haver & Boecker Niagara.

peration managers need to be sure they are choosing the most reliable parts for their equipment. They need to consider the knowledge, experience and resources required to manufacture the part, the potential hazards of using a fabricated version and the value of having the support of the original equipment manufacturer (OEM). Here is a look at the difference between the two and how those differences can impact production.

OEM expertise

Consider the difference between fabricated and OEM components. Fabrication shops have come a long way and are often able to produce quality components, but some equipment, such as vibrating screens, need such a precise tolerance that a fabricated part might not work correctly no matter how closely it resembles the OEM version.

Only a machine's manufacturer has the precise equipment drawings, measurements, plus/minus tolerances, material composition and know-how on what needs to be heat-tempered. This means only the manufacturer can produce a component that fits those fine-tuned parameters. Even a reputable fabrication shop with capabilities similar to that of the OEM has to rely on reverse engineering and guesswork to fashion a replacement. The part may look identical, but if it's even a little off it could cause problems.

A vibrating screen isn't so much a machine as a complete system where

every component works in tandem to accomplish a specific goal. If an operation screens 1 200 t per hour, for example, a manufacturer designs parts with different strength and rigidity than they would for a 200-t-per-hour application. This customisation ensures the entire system runs to the proper g-force and is strong enough to resist the forces of the material running over the screen.

The weight of the parts, the required running speed plus amplitude are all taken into consideration when balancing the screen. If an operation chooses to fabricate a side plate and the weight is wrong, for example, it could impact the machine's balance. This could lead to improper motion in the vibrating screen causing poor stratification



The original equipment manufacturer can offer an in-depth knowledge of an operation's vibrating screen along with accountability and fast, reliable problem solving.



Operation managers need to be sure they are choosing the most reliable parts for their equipment

Fabrication shops have come a long way and are often able to produce quality components, but some equipment, such as vibrating screens, need such a precise tolerance that a fabricated part might not work correctly no matter how closely it resembles the OEM version

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While at first a fabricated component seems to make sense because it can often cost less than an OEM part, those savings are often short term.

of material, lower bearing life, or premature breakage of body components due to improper operation. In the end, this leads to unscheduled downtime, contaminated product, or the required tons per hour not being produced.

Call for backup

Custom fabrication shops can't offer the support benefits of the original equipment manufacturer. OEMs usually have the infrastructure to ensure fast, efficient problem solving. If there is a problem with a part, the OEM will take full responsibility, quickly assess the situation and send a replacement almost immediately. Most parts shops don't have the resources for a quick, precise turn-around if the part doesn't work right, and there is no guarantee the replacement fabricated part will be correct.

In addition, working with an OEM means having a support team that understands an operation, its production and equipment. They know what parts will wear quickly and what parts need to be on hand to limit downtime. They often offer OEM supplier agreements that ensure they will have critical parts in stock for immediate delivery, limiting or eliminating extended downtimes.

OEMs' focus on vibrating screens also brings an in-depth product knowledge that's rare elsewhere. Some manufacturer's certified technicians test machines as a system before each leaves the factory, and they run the same tests once the vibrating screen has been commissioned to ensure results are identical.

They use this information to make sure every component is running at OEM standards, and the machine plus components are backed by a strong warranty programme. Not only do some manufacturers offer warranties on new equipment purchases, some guarantee parts for up to a year if an operation uses OEM certified technicians and parts and performs regular maintenance. Any fabricated parts introduced to a machine during a warranty period will void the entire machine warranty.

Fabricated parts' hidden price tag

While at first a fabricated component seems to make sense because it can often cost less than an OEM part, those savings are often short term. Minor imperfections in the part or lower tolerances for the stress placed on the machine can cause the component to fail prematurely, resulting in additional replacement costs on top of



unscheduled maintenance. Even while the part is functioning, it often adversely affects the production of the machine, diminishing the throughput and limiting profit potential.

But the potential damage from an imperfect part doesn't stop there. Those imperfections could start a chain reaction that leads to the damage of a series of other parts. This is especially true for shaft components, which form the heart of a vibrating screen. For example, if the shaft shoulders are not machined within the OEM tolerances, an operation could see problems within hours of operation. This slight difference in size can cause the shaft assembly stack up to be too tight or too loose, leading to excessive heat and or wear of the shaft components. This can cause bearing failure or premature breakage of shaft components.

This chain reaction of issues could result in maintenance costs far greater than the price of the fabricated component, but the cost is compounded by the fact that rarely is the heart of the problem diagnosed on the first pass. Most operators miss the true cause of the



"Choose carefully when looking at replacement parts. While fabricated components are usually cheaper and may appear to work correctly, any variance could cause damage and downtime down the line."

Duncan High, processing equipment technology division manager, Haver & Boecker Niagara problem and begin fixing the symptoms – a cracked panel, a cross member or sections of screen media. Then the damage is destined to repeat and those parts must be replaced again. These symptoms might become obvious within 48 hours; while the root cause might take a month before it's realised. By the time technicians find the issue, the cost of the initial part fix could be greatly multiplied and could be much higher than what the OEM counterpart would have cost.

Take tension rails, for example. A customer might wonder why his screen media is breaking after just a week of use, where before it lasted a month or more. An OEM representative visits the site and finds the operation has been buying tension rails from a local fabrication shop to save money. The tension rails looked right but were not tensioning the screen media properly across the screen deck, causing the sections to break. What saved the operation a few bucks up front on new tension rails cost them thousands of dollars in screen media and downtime for change-outs. In addition, if the faulty part caused the vibrating screen to operate incorrectly, there is a good chance that the stratification didn't occur correctly and that materials may have to be rescreened or discarded.

If operators do notice a problem soon after installing a fabricated part, they can prevent further damage by shutting the machine down quickly. However, this still results in costly downtime, as mechanics order parts and make repairs. Any time the vibrating screen can't run will bite into profits, particularly for operations in the midst of production season or a mining operation, where a few hours of lost time can result in tens of thousands of dollars of profit losses. This cost alone would quickly offset any savings from choosing fabricated parts.

Stick with the OEM

While it's good business practice to find ways to save money, site managers should not compromise on the quality of vital equipment. The risks of expensive repairs and time wasted are just too high.

Choose carefully when looking at replacement parts. While fabricated components are usually cheaper and may appear to work correctly, any variance could cause damage and downtime down the line. Continue to work with the original equipment manufacturer to guarantee a supply of reliable parts and the backing of a company with the resources to solve problems quickly. The right choice means more uptime, more profits and the assurance that a part will only make a machine run better.

XCMG SHOWCASES 'ORIENTAL WISDOM' AT Bauma China 2020

At bauma China 2020, XCMG showcased the strength of 'An Intelligent Future', while demonstrating the wise thinking of the 'Eastern Power' and the wisdom of a global construction machinery leader.



XCMG displayed a total of 120 machines at bauma China 2020.

n November 24, 2020, the 10th bauma China kicked off inside the Shanghai New International Expo Centre. With the COVID-19 pandemic still raging around the world and the global economic situation seemingly grim, bauma China 2020 showed China's wisdom and injected strength and confidence into the world economy with a professional, global and high-quality construction machinery event.

bauma China 2020 was the first concentrated display of XCMG on the world stage after the Chinese original equipment manufacturer successfully announced a strategic investment into the future.

At this grand event, XCMG demonstrated its strength in the global construction and mining machinery space on an 8 878 m² (indoor 2 014 m²) exhibition area, displaying a total of 120 machines and 65 parts-related and non-physical products.

The display included a complete suite of construction solutions, the largest, high-tonnage products on the show, an intelligent 5G unmanned control cluster, as well as new environmentally-friendly technologies. This was complemented by more than 100 online and offline activities, with a 72-hour 'day and night' uninterrupted global live streaming.

Constant innovation

XCMG used the exhibition to showcase the strides it has made in technological innovation. The company announced that it is stepping onto the stage of world construction machinery industry "with a new face".

Some of the flagship products on display were the XCA1600 all-terrain crane; the XE270E, said to be the industry's largest tonnage electric excavator; the XR700E, said to be the world's largest rotary deep drilling rig; the XDM100, the world's first 90-t, three-axle mining dump truck; the GR5505, said to be the largest mining grader in China; and the XC9350, the largest electric drive loader in China.

The XC9350 drew a lot of attention from visitors, due to the fact that it's the first domestic super-large-tonnage electric-drive wheel loader in China, which XCMG terms an unprecedented innovation. XCMG becomes the only manufacturer in China and the third in the world to produce 35-t class super-large-tonnage loaders.

Road to the top

Over the years, XCMG has adopted a product development strategy of highend, high-tech equipment in its quest to become a global leader in this field. On December 12, 2017, after the 19th National Congress of the Communist Party of China, General Secretary Xi Jinping visited XCMG, and emphasised that the equipment manufacturing industry was the backbone of the manufacturing industry at large. "We should increase investment, strengthen research and development, accelerate development, strive to occupy the commanding heights of technology in the world, so as to make China a modern equipment manufacturing power," he said.

"We won't slack off for a moment, in order to implement the spirit of the General Secretary's important speech, thus XCMG will continuously strengthen technological innovation to become a global leader in this space," says Wang Min, chairman of XCMG Group.

At present, XCMG has more than 7 300 authorised patents, more than 1 700 invention patents, 87 PCT international patents and has successfully completed the formulation and revision of four international standards.

Testimony to its leadership position in the global equipment industry is that XCMG is the world's No.1 manufacturer of wheeled cranes in terms of market share, while its concrete and piling machinery divisions are among the top two in global market.

Meanwhile, what is said to be world's first 4 000-t crawler crane has sold three units, with some of the units deployed to serve at the Belt and Road initiative. Its 700-t mining excavator, known as 'China's No.1 excavator is currently in service in large-scale mines.

Based on these innovations, XCMG believes that the road to the top is steadfast. On the list of the world's Top 50 manufacturers in 2020, XCMG has leapt to fourth place. Striving for No. 1 across the world, the enterprising culture of the company has prompted it to create several firsts in machinery.

CONSTRUCTION INDUSTRY NEEDS TO NEGOTIATE INCREASINGLY COMPLEX WORLD

"When nothing is certain, anything is possible. The complex world we are moving into requires economies of learning and robustness," so says John Sanei, futures strategist, human behaviour specialist and best-selling author.

anei was speaking at a virtual conference held by construction software company RIB CCS – #futurenow – which explored the urgent need for the engineering and construction industry to embrace digitalisation to remain relevant and future-proof their businesses.

He stressed the need for organisations to move beyond economies of scale and mass efficiency and recalibrate themselves for what's coming: uncertainty. "To prepare for uncertain times, we need to develop robust business models and structures that allow for experimentation and to see what grabs and what doesn't grab."

RIB CCS CEO, Andrew Skudder, says the engineering and construction sector has been operating in the same way for decades, is one of the least digitised industries in the world (21 out of 22 industries) and has not enjoyed significant productivity growth in recent years.

"With the world shifting towards the next great technological transformation, the ability to move with the tide of innovation is essential for industry players to gain a competitive advantage and set the pace in the built environment."

Three major challenges

Skudder says one of the conference speakers, Marc Nezet of Schneider Electric, highlighted three major challenges the world is currently facing – a global pandemic, recession and, most notably, climate change.

"World Economic Forum statistics indicate that construction accounts for 13% of the global GDP, 6% of world employment and a staggering 40% to 50% of worldwide emissions, meaning climate change cannot be solved without transforming the building and construction industry."

In Nezet's words: net-zero carbon cities and buildings can only emerge after being thoughtfully designed and built. And thanks to digital software technologies, users are empowered across the lifecycle of any construction project to make decisions for a more efficient and lower carbon future.

Need for change

McKinsey & Company partner, Gerhard Nel, reiterated the need for change in the industry. "This need is driven by an industry that is currently characterised by increasing complexity, changing customer preferences, sustainability considerations, a move to modular, a shortage of skilled labour and a stricter and more complex regulatory environment."

He suggests new industry dynamics are at play with emerging disruptions such as industrialisation in the form of modularisation and product standardisation, as well as industrialising workflows from engineering to planning and procurement. "In addition, he says new entrants with new business models or unicorns will lead to disruption of the market."

He says McKinsey & Company conducted a survey of all the digital solutions in the market, surveying 2 400 companies. "Clear trends have emerged around firstly – digital twinning; secondly – 3D printing, modularisation and robotics; thirdly – Al and analytics (using big data); and fourthly – supply chain optimisation and marketplaces."

Two plays

Skudder says from RIB CCS' perspective, the most interesting aspect was the digitalisation of the industry as a key disrupter. "With a plethora of digital solutions out there, we have witnessed two 'plays' in digitalisation.

"One is the platform play where software companies like RIB look to creating a common or single database with applications on top that give clients a holistic view and the ability to access to their data, but where each participant in a project has their own applications to suit their work, be it estimation, planning or quantity surveying, amongst many others. This allows for enhanced collaboration and the harnessing of structured data for better decision making around projects.

"The second play is the tool-set play whereby software companies build specific applications to solve specific problems such



Andrew Skudder, RIB CCS CEO.

as estimating or planning. The problem with this is that data is then situated in silos and becomes difficult to consolidate.

"That's why we believe that when it comes to digitalisation, it's about embracing a single platform that connects the organisation's data, business processes and people in one environment, which leads to greater efficiency, increased access to information and better run projects," adds Skudder.

Referring to the topic of disruption raised by John Sanei, Skudder agrees that sometimes meaningful transformation requires creating 'future teams' in the business to experiment on new ways of doing things.

"Innovative organisations do this as a matter of course, but I don't think construction companies do it enough. I think it's a great suggestion for them to consider, especially with the way the sector is evolving."

Importantly, Skudder says, significant change management and digital transformation need to be leadershipdriven. "Clients also need to establish a digital roadmap of the journey they intend to take and deliver good quality training to employees. Our philosophy at RIB CCS is that organisations need to be empowered to train themselves, thereby allowing them to own their projects."

Perhaps, Skudder and the other conference speakers' sentiments can be best summed up by Rukesh Raghubir, CEO of M&D Construction Group, who says: "We need to understand that as an industry, if we do not disrupt ourselves, someone else will do it for us." •

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THE MINING INDUSTRY OUTLOOK

While no two cycles are the same, the one thing that stands out in this cycle is the sheer volatility. There have been massive moves daily, not just weekly or monthly, which leaves analysts confused as to whether we are up or down. Another thing that stands out is the breakdown in several long-term metrics that are usually tracked. By *Avinash Kalkerpersad*, head research analyst, and *Arnold van Graan*, equity research analyst at Nedbank.

here are certain factors that drive the metal price, but over the last few months, these seem to have fallen by the wayside. What is reflected in the market and on the ticker, boards are not necessarily a reflection of what's happening in the fundamentals, which is challenging.

So, what is really driving this market? What are the factors one should look at to really understand where this is going and what will the new norms look like? This is quite challenging, but the cycle has been good to the sector with most resources going up sharply, gold being the standard – and that is key. It is the breakdown of fundamentals and the volatility that are the real challenges in this sector.

Gold has seen a 100% return, year-todate compared to the All Share Index at -1%. The resource sector is up 18% which includes Platinum which is up by 13%. This indicates good performance. On a one-year basis, resources are up 34%, platinum is up 100%, gold is up by 140% and the All Share Index is up only 4%.

Looking at it on a five-year basis is where the excitement around gold really is, with it being projected to go up by 580%, platinum up to 250% and resources in general up 75% compared to the All-Share index going up only 12%. This is the wonder of resources and mining. When you think it is down and out, you get a bull market. The uniqueness of this sector is that a big reset can occur and make up everything you've lost in the past few years within a few months.

Key drivers

The direction of this rally will be determined by two things – one being the outcome of COVID-19 and whether





we will peak or see the second round of infections, the other being how much money central banks and governments will invest into the financial systems to boost the economy. These will be key drivers of commodity prices and their trajectory, gold included.

There are two important drivers of demand, one being China and the other being stimulus, and these are interlinked. Most of the metals produced both in South Africa and globally are consumed in China. The resource sector is greatly affected by the Chinese economy. With a strong rebound in China after the damage from their lockdown, it is net positive for the rest of us.

There are a lot of goods which are manufactured in China, and end up being exported and consumed elsewhere. They are a big vehicle manufacturer so approximately 65% of PGMs are consumed in China. This is important for the PGM sector.

We are in a familiar situation which we saw at the end of the global financial crisis in 2008. A good way to get the economy going again is to get people to spend money and that comes down to stimulus and QE and the like. It will not only push money into the system but also revitalise it.

Approximately 70% of all PGMs produced go into the auto industry and the bulk of that goes directly into China. There was a decline in global vehicle sales pre-COVID-19 which raised questions around the long-term future of the industry. A major disruptor in the industry remains electric-powered vehicles and the impact it will have. This is made more relevant with Tesla's increasing share prices. We need to answer the question of post-COVID recovery and the future of electric vehicles. They go hand-in-hand. The recovery of the auto sector will depend on stimulus measures. We predict a strong recovery in global vehicle sales on the back of stimulus and continued growth out of the global auto sector.

Changing dynamics

There is an increasing need for private transport to avoid using public transport considering COVID-19. This is a positive for the auto sector in terms of a rebound. There is still the threat of electric vehicles on the horizon and we believe it is not a near threat – not within the next five years, at least. The transition to electric vehicles will be a long-term theme.

Pre-COVID, the PGM market looked good and prices were starting to increase due to a potential shortage of metal, because the industry had been undercapitalised. We haven't built enough mines to sustain long-term demands. With the hard lockdown, we will see 15% of 2020's production taken offline. This is a positive, as you are losing supply when there is no demand. The shortages pre-COVID will push through and continue. Platinum tends to be in oversupply, whereas palladium and rhodium will be in deep deficits for the foreseeable future. Our view is that we will see the substitution of palladium into platinum. If we look at it from a basket perspective, we do see these shortages.

Ultimately, we will be discussing the impacts of Covid-19 on the industry for much longer than it will be trending in the news. The ramp-up post-COVID is deliberately slow with mining companies focusing on the health and safety of workers and not production. As a result, most mines only reached a somewhat steady state towards the end of July. Underground mines sit at 80% production levels due to social distancing, which results in delays and challenges getting some members back to work. There is always a risk of COVID-19 impacting production on the mines.

Offshore expansion

Since the 90s there has been a big push to expand offshore. This continued and

we saw disinvestment by major listed produces, like Anglo Gold who recently sold their last operations in South Africa. In our research, we found that in the gold sector companies went offshore due to weak papers.

But they didn't have the buying power to purchase the best assets and ended up buying lower-tier assets in new jurisdictions, different from the mining methods they were used to. The sector spent a lot of money buying lower-tier assets but was not the best at running them, which resulted in a lot of value destruction in the process. While companies are becoming more prudent in their offshore expansions, we are not seeing major deals as we have in the past.

South African companies have become better international operators, not just in mining, but in other sectors too. A cautionary warning to offshore expansion would be to have a thorough understanding of the new jurisdiction, its legislature, its people and ensure you buy the best quality assets – not just buying assets for the sake of buying an asset offshore. This will be key.



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Vermeer Equipment Suppliers takes over distribution of MultiOne loaders

Vermeer Equipment Suppliers, the exclusive distributor for US-based Vermeer Manufacturing Company's range of equipment for agriculture, underground utility installation, tree care, organic waste recycling, land clearing, mining and pipeline solutions in sub-Saharan Africa, is expanding its product offering by adding MultiOne branded articulated loaders and attachments to its portfolio.

CSF MultiOne SRL, an Italian based OEM has a strong, 20-year track record of supplying customers around the world with compact articulated loaders that are known for high quality, versatility and efficiency. In January of 2020, MultiOne announced it had entered into a distribution agreement with Vermeer Corporation for the supply of Vermeer-branded loader models to be sold, serviced, and supported exclusively through Vermeer dealers across North America.

One year later, Vermeer Equipment Suppliers is now the first Vermeer distributor outside of North America to take up distribution of the MultiOne brand.

In early 2020, CSF MultiOne SA and Vermeer Equipment Suppliers entered into an agreement that outlined the transition of the MultiOne distribution rights to Vermeer



Equipment Suppliers. This included the acquisition of all inventory and the employment of outgoing director at CSF MultiOne SA, Lofty van Wyk, who will be responsible for the full commercialisation of the MultiOne brand within the company.

"Since the inception of Vermeer South Africa in 2004, we have steadily increased market share of the Vermeer brand in Sub-Saharan Africa," says Frank Beerthuis, MD of Vermeer Equipment Suppliers. "The economic contraction in sub-Saharan Africa limits our opportunities for organic growth and therefore the reason for us taking on an additional product that complements our existing Vermeer product range. The MultiOne brand meets this criteria and the addition of this line of equipment will allow us to keep focusing on our core business, and continue to provide the excellent service that our existing customers are already used to, to a new and growing customer base."

Lofty van Wyk, segment manager Articulated Utility Loaders adds: "With the already excellent reputation of MultiOne in southern Africa as a quality-built product and with the Vermeer support structure behind it, we will be geared for further growth."

GLTC's short-term rental offers customers a flexible solutions

With the unsteadiness of the economy, influenced by factors that fall outside the control of the industry, Goscor Lift Truck Company's (GLTC) short-term rental solution offers flexible and cost-effective solutions for cash-strapped material handling equipment users.

A major benefit of GLTC's short-term rental solution is its flexibility. Tanya Brummer, national rental manager at GLTC, says the importance of flexibility cannot be reiterated enough, especially during these tough operating conditions.

"Short-term rental can be anything from a day to three years. Amid the current uncertainty due to tough economic conditions, this is a flexible solution for our customers as they don't have to be bound to five-year rental contracts, for example. They can terminate the rental agreement anytime when finances are tight or business production reduces," she says.

If a company rents equipment with GLTC's rental division on a short-term basis, she says, and the market deteriorates, they are in a position to return the equipment to the supplier. On the other end of the scale, if they win projects or take on new work, they can still hire more



equipment to meet their immediate needs, without taking on greater risk. "Our shortterm rental solution offers that much needed flexibility, allowing customers to easily adapt to business fluctuations," she says.

The rental division is represented in all the major economic hubs of the country, with branches in Johannesburg, Durban, Pietermaritzburg, East London, Cape Town and two multi-franchise branches in Port Elizabeth and Nelspruit. "We also have our own roll-back trucks that deliver the forklifts to our customers to reduce turnaround times and increase flexibility, for example, when a customer requires early delivery or late collection," she says.

The short-term rental division has a big fleet of a wide variety of equipment that speaks to the needs of different customer groups. The current fleet is 1 200 pieces of machinery, with the majority of this in Johannesburg. The range is from small electric pallet jacks to 16 t diesel forklifts. •



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SKF Zambia increases equipment availability for Zambian mine

Non-destructive testing (NDT) undertaken by SKF Zambia on more than 90 mobile mining machines, and equipment operating on one of Zambia's largest copper mines delivered massive savings for the customer over a six-month period.

The mine, which is located in Zambia's North-Western Province, is a key long-term customer of SKF Zambia. "We share a solid 15+ year relationship with our customer, supplying the mine with SKF bearings and seals as well as Lincoln Lubrication solutions over the years," confirms key accounts manager at SKF Zambia, Mel Patel.

Internal cracks on mobile machines are a chronic issue on the mine where heavy equipment operates round-the-clock. NDT works are thus fundamental to the mine's predictive maintenance strategy planning. In addition to averting unnecessary downtime, huge parts procurement costs can be avoided through better planning around stocking of larger parts with longer lead times.

The SKF Zambia's specialist team conducts NDT works on 90 machines on the copper

mine every six months, completing two to five units per day. These include the mine's most critical machines such as articulated dump trucks (ADTs), mine haul trucks, drill rigs, rock breakers and excavators that operate 24/7 as well as equipment including excavator buckets and booms. Additional inspections are also carried out on other components on the mine as required by the end-user.

"Our NDT scope of work is comprehensive comprising aspects such as inspection of welds, castings, forgings, components, plates and rolled product piping; coating inspection covering all aspects of surface finishing; mining truck frame inspection; holiday testing, and Corrosion Under Insulation Detection using Lixi Profiler," notes Patel.

SKF Zambia's NDT solution, which was rolled out in June 2020, included traditional and advanced techniques. Ultrasonic Testing, Magnetic Particle Penetrant Testing, Eddy Current Testing and painting and coating inspection are some of the traditional methods applied by SKF Zambia.

Some results following testing work

SKF Zambia team conducts NDT works on 90 machines on the copper mine every six months.



included the identification of frame cracks on various dump trucks and excavators. "We filed a report for repairs and, following the necessary repairs, we conducted a second inspection to ensure that all was in order," says Patel. "By pinpointing issues and enabling the necessary repairs to be done before catastrophic failures, we delivered tremendous cost and time savings benefits to our customer.".

Hytec appoints new distributor in Angola



The Ocean Atlantic team in Angola.

Ocean Atlantic in Luanda has been appointed the Hytec Services Africa (HSA) distributor for Angola, effective 1 August 2020, and will distribute Bosch Rexroth SA Group's entire scope of products, services and technologies. In addition to increasing Hytec's distribution capabilities in Angola, Ocean Atlantic brings the advantage of providing products and services to industries and applications not previously serviced by Hytec.

Angolan industries that will benefit from Hytec's products and services include mining, general industry and oil & gas, with the latter offering new opportunities for Hytec's products and services. Some of these include providing its offering to floating platform storage and offloading (FPSO) vessels; tension leg platforms; fixed structure production platforms; drill ships; and jack-up rigs.

"This is an exciting new focus area of business for Hytec, and Ocean Atlantic has the required skills and experience to successfully represent us in this industry," says Petrus Viljoen, African development manager, Hytec Services Africa (HSA).

"We at Ocean Atlantic are excited to now also have the support, product and service portfolio of Hytec as part of our growing Hydraulics business, and look forward to providing our existing and new clients with an expanded set of world class products and services," adds Petter Eriksen, director of business development for Ocean Atlantic.

Ocean Atlantic specialises in workshop services (choke valve refurbishment and

integrity checking); inspection services; asset integrity management; and hydraulic services, which include oil condition monitoring, filtration, varnish treatment, water removal and cargo pump refurbishment. "Ocean Atlantic representatives experienced our world class repair capabilities first-hand when they attended the Hytec customer open day in 2019. We have therefore agreed that all pumps and motors sent to Ocean Atlantic will be redirected to the Service Centre of Competence Hytec Repair Centre," Viljoen explains.

In considering Ocean Atlantic as a Hytec Sales and Distribution Partner, various aspects were taken into consideration. Among them are Ocean Atlantic's technical expertise and years' experience in the oil & gas industry; their in-country high quality workshop availability with the potential to conduct minor repairs (including stripping and assessing for repair); and their hose and fittings manufacture and supply capabilities.

"In addition to these positive product and service attributes, the company afforded us the opportunity to jointly visit their customers and conduct a due diligence of their in-country capabilities," Viljoen points out. "All of these, and their ongoing positive interaction with Hytec, contributed to us finding in their favour."

Ocean Atlantic has been awarded Hytec distribution rights for one year, ending in August 2021, after which a new contract may be negotiated. Hytec South Africa is a member company of the Bosch Rexroth South Africa Group of Companies.

Quality chute designs solve many plant challenges

A major advantage of Weba Chute Systems is that they address multiple bulk materials handling issues at once. Alwin Nienaber, the company's technical director says that the absolute control of material is vital in all transfer points.

Among the key challenges that plants face, for instance, are spillages and blockages at the transfer point. This creates risks to safety and the environment, leading to costly downtime. Dust is also a common problem, compromising workers' health and even leading to regulatory non-compliance. Excessive wear of conveyor belts and transfer point components is another headache for plant operators, often requiring frequent maintenance and causing unscheduled downtime.

"The source of these issues is invariably the uncontrolled discharge of material," says Nienaber. "To effectively control the direction, flow and velocity of material, each transfer point needs to be custom-designed using sound engineering principles."

Weba Chute Systems develops its chute designs based on the 'supertube' effect, says Nienaber, using sophisticated 3D software as well as discrete element method (DEM) simulation for verification. The controlled transfer of material onto the conveyor belt reduces wear and tear on belts while also minimising the physical impact that creates dust. The cascade lining system can also be employed, allowing 95% of material to run on



A Weba Chute System installed at the reclaim conveyor head transferring material from the stockyard to the plant for processing.

like material to reduce wear.

Nienaber highlights that transfer points contribute to some of the highest maintenance costs in a bulk materials handling plant, and should therefore be considered as critical elements of a minerals processing system. A chute's performance is especially relevant to the wear-life of conveyor belts, which can account for a large percentage of running or maintenance costs.

"Conveyors are carefully selected to match the plant's operational needs, as are the feeders, crushers, hoppers and screens," he says. "Unfortunately, the chutes at the transfer points are often considered as simply fabricated platework, and not afforded the same detailed attention."

Optimum chute design and customisation can solve a range of plant challenges while reducing maintenance requirements, improving transfer conditions, increasing throughput and rendering a longer life to conveyor belts. Nienaber notes that global best practice has in fact accepted the vital role that chutes play, recognising that they should be engineered to suit the specific application.

Weba Chute System's design philosophy has found its way into over 5 000 transfer chute installations in mines and plants around Africa and abroad.

Metso Outotec launches sizer crusher for soft ore applications

Metso Outotec is complementing its line of mobile and modular stationary crushing solutions with a sizer option specially designed for soft ore and aggregate applications. The new additions to Metso Outotec's mobile Lokotrack product line is equipped with Komatsu's sizer technology, and is available in five models ranging from 500 to 4 500 t per hour.

Metso Outotec's recently launched modular FITTM crushing stations are also available with sizer configurations. Both the mobile and modular solutions were engineered in collaboration with Komatsu. The first Lokotrack sizer plant is already in operation in South-East Asia.

"New concentration technologies and strict environmental norms make it economically viable to process such deposits and stocks that were not possible to handle profitably earlier. However, the characteristics of soft ores like low abrasiveness and high moisture content require a different equipment configuration than when crushing hard ore. To provide leading solutions for our customers processing soft ore, we are now combining our expertise in mobile and semi-mobile crushing with Komatsu's sizing knowhow," says Julius Mäkelä, vice president, Mid-Size and Mobile Crushers at Metso Outotec.

"Komatsu is excited about the opportunity to partner with Metso Outotec to provide soft ore crushing solutions. Komatsu's Joy sizers are well known in

the industry and they've proven their efficiency and reliability in various applications. The combination of Metso Outotec's Lokotrack and FITTM Station with our sizers provide a unique and superior solution for soft ore and rock crushing," says John McCarthy, sizer product manager at Komatsu.



Metso Outotec's new mobile Lokotrack product line is equipped with Komatsu's sizer technology.

Metso Outotec's Lokotrack mobile sizers are designed for safe operation and easy application. When combined with the Lokolink and Conveying Systems, Metso Outotec can provide a truckless solution right from the quarry to the concentrating or cement plant.

Volvo Trucks commences local LNG testing

Volvo Trucks Southern Africa has brought in two Liquefied Natural Gas (LNG) trucks to be used for local testing. These gaspowered trucks have specifically been developed for heavy regional and longhaul operations.

"Many of our customers already work hard to reduce their environmental footprint. We therefore see a clear potential for LNG units as a vital part of the solution," says Marcus Hörberg, vice president of Volvo Group Southern Africa. "Our vision is that trucks from Volvo will eventually have zero emissions, although the way of achieving that is not by one single solution but rather through several solutions in parallel."

Natural gas has promising potential as a substitute for diesel in trucks, with a good supply globally, and increasing availability locally. When cooled down to low temperatures, the gas liquefies (LNG) and reduces in volume, which means increased capacity to carry more fuel.

Through fuel-efficient drivelines and chassis configurations, Volvo Trucks' LNG range makes significant fuel and CO² savings possible. Natural gas is obviously a fossil fuel, but it can produce 20% lower CO² emissions than diesel.

"The new gas-powered Volvo FH LNG drives and performs just like the



Eric Parry, product manager at Volvo Trucks Southern Africa (left), with Marcus Hörberg, vicepresident of Volvo Group Southern Africa.

Volvo FH you know," says Eric Parry, product manager of Volvo Trucks Southern Africa. "The powertrain in the new gas-powered trucks is based on our renowned diesel engine technology. Also, by using LNG rather than Compressed Natural Gas (CNG), it is possible to carry larger quantities of fuel and thus ensure the necessary operating range for long-haul assignments."

Volvo's new gas-powered trucks offers the same fuel efficiency as diesel-powered equivalents and can operate at the same speed. However, since LNG is often cheaper, this offers a good opportunity to reduce fuel costs. With the 205 kg LNG tank, European operators are seeing usable range of up to 1 000 km, this is dependent on the terrain and payload carried.

"The engine is the heart of any truck," says Parry. "The gas-powered G13C engine's efficiency is on a par with diesel and operators can expect the same service intervals, reliability and performance. Just like Volvo's other Euro 6 trucks, the Volvo FH LNG uses SCR technology with Adblue and a particulate filter for exhaust after-treatment."

BHL places record order for FAW trucks

FAW recently recieved a record order for 150 vehicles from Zambian transport company, BHL, for its latest J5N 28.2380FT 6x4 truck. The order was made up of 140 units with a flatdeck superlink combination and 10 units with a tautliner superlink combination. BHL specialises in the transportation of various commodities with value added services.

The transport company's operations extend into Namibia, Botswana, DRC and South Africa, with major routes that include the Copperbelt from Solwezi to Walvis Bay and Solwezi to Kolwezi and Likasi in the Democratic Republic of the Congo. Transporting copper with flat deck superlinks remains the core business for BHL, but the company is constantly expanding its footprint and offering in the SADC region.

A driving force behind the large purchase was the long lasting relationship with FAW, which started in 2012. Another reason why such a substantial investment was made into the purchasing of so many vehicles is because FAW is one of the world's largest truck manufacturers, with state-of-theart assembly operations in South Africa. This, according to BHL, will always offer a competitive advantage in the markets that they operate in. Other factors included competitive price tags and reliable vehicles with the SABS stamp of approval, all of which made this truly momentous decision a logical one.

The African continent is continuously developing and the commercial vehicle and transport environment is completely unique. With the growing prevalence of Chinese influence on the continent and even more so in the SADC region, it is important for customers to associate with brands such as FAW, which can offer the required level of support, especially from an aftersales perspective.

"The 28.380FT has established itself as the backbone of our

fleet since the initiation of the partnership. Its exceptional fuel consumption is crucial to improving our bottom line at BHL. With the introduction of the new and improved J5N range in 2019, it cemented the brand as our first choice for any future additions to our fleet. We are grateful and excited to embark on this new journey with our partner FAW SA," says a BHL representative. \bigcirc



BHL has taken delivery of 150 FAW trucks.

BST Plant Hire invests in a new 38-t Hyundai tracked excavator

Excavator plant hire specialist in the Rustenburg area, BST Plant Hire (Blue Sands Trading) – has expanded its fleet with a 38-t Hyundai tracked excavator, which is designed to cope efficiently in arduous conditions in the chrome sector.

"A priority for us at BST is a firm commitment to our customers to provide dependable machines that are able to deliver high performance, with minimal downtime, in difficult environments," explains JP Lourens, owner of BST Plant Hire. "Part of our success in a very competitive industry, is to ensure every machine is well-maintained and that professional operator training is provided to ensure optimum productivity and safety on site.

"The investment in quality used equipment is critical to ensure high productivity, fuel efficiency and low maintenance requirements.

"We also understand the value of working closely with equipment suppliers and our sound association with the HPE Africa team is testament to how important reliable support from the maintenance team is.

"In our plant selection process, we focus

on matching the correct size machine to exact project requirements. We also consider budget restraints and make sure we find a reputable supplier with a proven track record that provides dependable back-up support and an efficient spare parts service.

"In addition to the reliable service and support we receive from HPE Africa, I personally inspect our fleet two or three times a week, to ensure every machine is in pristine condition, to deliver the highest standards of delivery excellence and safety on site."

Hyundai R380LC-9SH excavators have environmentally-friendly water-cooled, 4 cycle diesel, direct injection turbocharged Tier 2 engines, with reduced emissions. These machines offer net power ratings of 195 kW @ 1 900 rpm, with an operating weight 38 450 kg and a maximum travel speed of 5 km/ hr. The maximum digging depth is 6 820 mm, the maximum dumping height is 7 370 mm and the bucket capacity is 1,62 m³.

According to HPE Africa's specialists, new design features of this series include the two-stage auto deceleration system and a highly-efficient economy mode that reduce fuel consumption and minimise the negative



impact on the environment.

Safety on site and improved operator comfort were other important factors in the design of these machines. For improved visibility, the spacious cab is fitted with a larger right-side one-piece glass and a reduced front window seam.

Features for precision control include a smart auto boom-swing priority, computeraided power (CAPO) and an improved hydraulic system. Hyundai's advanced CAPO system interfaces with multiple sensors throughout the hydraulic system, as well as the electronically controlled engine, to provide the optimum level of engine power and hydraulic flow for maximum performance and productivity.

Pioneering solution to improve fuel efficiency in construction equipment

Volvo Construction Equipment (Volvo CE) and Finland's Norrhydro have developed a digital hydraulic actuator that increases productivity while radically cutting fuel bills and CO_2 emissions in construction applications. If widely adopted, it could help the industry meet its sustainability ambitions while at the same time improving machine performance.

When commercialised, the potential customer and climate benefits are expected to be radical, with machine fuel efficiency significantly increased and CO₂ emissions being cut.

While the full details of the revolutionary technology are closely guarded, the Norrhydro patented system, NorrDigi, uses a multi-chamber digital hydraulic actuator that improves system efficiency that much of a machine's hydraulic system can be discarded or downsized. It removes the need for a main control valve – the heart of a traditional hydraulic system – along with excessive pump capacity, piping and hoses. It uses less energy and offers the prospect for downsizing the engine capacity.

The ongoing validations of the solution have demonstrated both efficiency improvement and an increased machine productivity. With carbon dioxide emissions reduced, it is making a radical cut in the machine's carbon footprint. Volvo CE and Norrhydro have signed a multi-year agreement where Volvo CE will continue to develop the technology in partnership with Norrhydro, and subsequently aim for first mover advantage. Volvo CE has exclusive rights to its use in its products during the development process.

Unlike traditional cylinders with two chambers – one pushing, one pulling – the digital hydraulic actuator uses four chambers that can be connected in up to 16 different permutations, depending on the load required by the desired operation.

"It's a bit like a 16-speed linear transmission," says Peter Stambro, vice president business development at Norrhydro. "Multi-chamber cylinders have been around for a while, but what makes our ones exceptional is the way they have been combined with advanced electronic control systems, whose complex algorithms and computational speed allow for instant response, but using only a fraction of the energy for the same machine manoeuvre or action compared to a traditional system."

"This is a prime example of how partnerships with outside experts can accelerate our own sustainability journey through technical innovation," says Thomas Bitter, head of technology at Volvo CE. "In research so far, the system shows greatest benefits in larger machines — in the case of excavators, those 30 t and above. ©



Volvo CE showcases groundbreaking innovations

Volvo Construction Equipment used bauma China 2020 to showcase its groundbreaking innovations in connected, automated and electrified construction machinery at bauma China 2020. Some of these technologies are already available to customers today, while others are being implemented or part of the company's innovation strategy.

Among the exciting innovations already available to customers is Volvo ActiveCare, one of the highlights of the Volvo Services showcase at the exhibition. Volvo ActiveCare is a machine monitoring and proactive maintenance service, using data from connected machines to take preventive action and avoid unplanned downtime.

When customers subscribe to the service, data from the Volvo CareTrack telematics system on their machines is fed in real time to the Volvo Uptime Centre. Here, case handlers monitor the machines' performance and, if an error code or alarm occurs that might lead to a breakdown, they call the closest dealer to the machine, suggesting an action for the dealer to relay to the customer. Customers can rest assured that potential issues will be noticed, and preventive action taken to ensure maximum uptime for their machines.

Exemplifying its innovations for the near future, Volvo CE had on display two new electric customer pilot excavators at bauma China



- the 5,5-t EC55 Electric and the 22-t EC230 Electric – which will shortly go for testing by customers in China. The electric excavators are powered by lithium-ion batteries and can work a full day with a high-power lunch-hour charge. This is the first time Volvo CE has developed electric customer pilot machines for China. The excavators are not commercially available yet but during this research phase Volvo CE aims to mature them quickly so that they can be commercialised as soon as possible. "China is the largest electromobility market globally and a leading producer of electromobility components, which provides the demand and means to manufacture a machine locally. In addition, China has an industrial strategy to decrease dependence on diesel and so the electromobility market is expected to move quicker. These factors make China the perfect place to test our new machines and gain valuable customer feedback," says Mats Sköldberg, head of technology at Volvo CE China.

Husqvarna Group acquires Blastrac



The Blastrac product portfolio includes solutions for shot blasting, scarifying, scraping, grinding and polishing, as well as for dust collection.

Husqvarna Group's Construction Division has signed an agreement to acquire Blastrac, a leading provider of surface preparation technologies for the global construction and remediation industries.

"The acquisition of Blastrac strengthens and complements our organic growth ambitions, as we are further expanding into complementary surface preparation solutions. This will enable us to provide customers with a complete range of solutions for any given surface preparation task," says Henric Andersson, president & CEO, Husqvarna Group. The Blastrac product portfolio includes solutions for shot blasting, scarifying, scraping, grinding and polishing, as well as for dust collection. Blastrac's net sales during last 12 months amounted to approximately SEK600-million. The company has 380 employees globally with manufacturing and sales offices in North America, Europe and Asia, with sales in more than 80 countries.

"The acquisition aims to further build and expand our offering in the market for surface preparation. Blastrac's business fits well into our growth strategy and will enable us to expand to our existing and new customers," says Karin Falk, president, Construction Division. "In addition, the Blastrac team will bring extensive product and market expertise with these complementary solutions."

The parties aim to close the acquisition by the end of 2020. The acquisition is subject to approval by relevant competition authorities. •

Cummins appoints new dealers in North and West Africa



The newly appointed Cummins dealers meet all service standards and business ethics.

Boosting productivity for SANY equipment owners

SANY's automatic lubrication system plays an integral part in increasing production and reducing costs on high-performance sites by ensuring that all the points of the boom and bucket are frequently and correctly lubricated.

According to Brendon Pretorius, Bobcat Earthmoving Equipment's service manager, in addition to reducing wear and tear by maintaining a proper lubrication film, correct and frequent lubrication purges bushings and pins of dust, sand, water and dirt.

"Once these contaminants work their way into bushings and pins, they act as a grinding component that reduces the lifespan of bearings significantly. This may lead to increased maintenance requirements, unexpected repairs and longer periods of downtime, translating into significant costs for construction and mining fleet owners," Pretorius says.

The system addresses all the limitations of manual lubrication, which is ideally suited to smaller equipment with fewer points and that require extended lubrication intervals.

Lubricating all the points of a single large machine in this manner is a very cumbersome and time-consuming process. It can take up to 45 minutes and longer when buckets and booms need to be lubricated in various positions to ensure that the grease is evenly distributed to protect the components under load. Manual lubrication is also heavily influenced by an array of variables. They include tight production schedules, weather conditions and logistical constraints such as the location of equipment and the availability of lubrication trucks. The level of competency of workers and human error are also other important considerations. For example, it is not uncommon for bearings to not be completely purged and grease spreads unevenly in the bushing when lubricating manually.

SANY's automatic lubrication system also facilitates a safer working environment on construction and mine sites by eliminating the need to climb on machines to lubricate the various points. By delivering the exact amount of grease to where it is required, the system also eliminates wastage, providing further cost-savings for customers.

Pretorius explains that the desmodromic drive of the EP-1 pump works in combination with the modular progressive distributor blocks that are equipped with a piston, or main distributor, to ensure that all lubrication points receive the required lubricant quantity as established with the EP-tronic controller.

"The controller consists of three operating modes, namely time, cycles, or revolutions, and three operating conditions, including easy, medium or heavy. Low-level sensors monitor empty reservoirs and the piston detects blockages in the system. The system



By delivering the exact amount of grease to where it is required, the system eliminates wastage, providing further cost-savings for customers.

also includes an integrated data logger with diagnosis module," he says. 🕲

Cummins has appointed several new dealers as in-country representatives in the key growth areas of North and West Africa, according to sales and business development manager Franck N'Guettia. "The focus is on supporting our customers," he says.

Following the closing down of the Cummins entities in Ivory Coast and Senegal, N'Guettia and his cross-border team now oversee 15 countries in the region. Ghana, Nigeria and Morocco remain standalone Cummins distributors, with Ghana serving as the main distribution hub and rebuild centre supporting the cross-border team.

N'Guettia and his team have been busy appointing dealers in key countries that will provide the superior support expected by Cummins customers. "We had an interdisciplinary Cummins team meet with each of the candidates. Factors considered included strategy, financial stability, technical know-how and alignment with Cummins' values. As a result of the evaluation process, we selected partners to represent either the power generation or service portfolio of Cummins."

N'Guettia says: "We take it seriously that any dealer is a true representative of Cummins, meeting our service standards and conducting business in line with their country's laws and regulations. Our dealers are very clear that ethics and compliance are integral to our values as a company. The selected dealers have a good knowledge of the market and clear strategies for growth that are aligned with Cummins."

Empowering its dealers is part of the Cummins approach to move resources closer to its customers. "We recognise that we can't be everywhere, so it is important to have partners who hire and develop local talent, understand the culture and business requirements of our customers and who can operate efficiently. We are excited about

APPOINTED DEALERS		
Africa Energy Solutions	Gambia	Banjul
Africa Energy Solutions	Guinea-Bissau	Bissau
SEEE Energies SA	Senegal	Dakar
ASSEIT SARL	Senegal	Dakar
MAG Energy	Sierra Leone	Freetown
LA Consulting	Gabon	Port Gentil
International Business Solutions	Guinea	Conakry
Africa Energy Solutions	Mali	Bamako
WARWI SA: ATEC	Mali	Bamako

the partners we have chosen."

Cummins' message to the North and West African market is that it has appointed capable partners to ensure efficient and reliable product supply and support. "Our dedicated cross-border team is working hand in hand with each dealer. Furthermore, our dealers have access to the full global resources of the company. We wish to reassure our customers in the region that we are here to take care of them."

Mining and power generation remain the biggest markets for Cummins in the region, followed by marine, automotive, construction and general industry. "This is a strategic region for Cummins Africa Middle-East, especially as it is one of the fastest-growing areas on the continent," concludes N'Guettia. ©

INNOVATING FOR GROWTH WITH DATA ANALYSIS

Analytics help companies harness their data and use it to identify new opportunities. An international survey has found that 96% of respondents believe analytics will become even more important to their organisations over the coming years. This acceptance of data and analytics is heralding in a new era of business change better suited to the digital world. By *Paul Morgan*, business united lead for data, planning, and analytics at Altron Karabina.

Il functional areas can be impacted by the application of analytics. Organisations that are consumer focused, such as telcos, can see quick wins by focusing on customer segmentation, churn prevention, and identifying new markets and products. Cost-conscious sectors, such as mining houses, often start with efficiency improvement, centred on risk reduction analytics, equipment performance, logistics, and the supply chain. For all these organisations, understanding the types of data available to them can significantly assist in becoming more productive and return better value for stakeholders.

Connecting devices

Contributing to this era of data-driven decision-making is the growth of the Internet of Things (IoT). The use of IoT in manufacturing is projected to generate up to US\$3,7-trillion of value globally by 2025 thanks to improved operational efficiency, predictive and preventative maintenance, supply chain management, and inventories and logistics enhancements.

Companies now have access to an unprecedented amount of data generated by sensors on virtually everything from stock in remote retail outlets to the efficiency of manufacturing processes by automated solutions. This 'edge' based data can provide numerous insights instrumental to becoming as efficient as possible and identifying new areas to pursue business growth.

Businesses across industry sectors are becoming more open to embracing different technologies that enable them to minimise spend and become better at data management and analysis. In turn, this enables them to identify the areas to invest in and the ones to cut back on. Of course, there is a careful balancing act when it comes to introducing things like robotic process automation and maintaining investment in human resources. It is especially the case in a country like South Africa where high levels of unemployment and a strong labour union culture combine to pressure companies to manage people better using the technology at their disposal.



Paul Morgan, business united lead for data, planning, and analytics at Altron Karabina.

A better approach to leveraging insights from the data generated, is making the existing workforce more efficient and optimising the performance of equipment especially when it comes to the manufacturing sector.

Becoming proactive

This is where IoT can help turn the focus towards the predictive maintenance of equipment. For example, sensors can identify irregularities and send alerts flagging possible break-downs. These early warnings can lead to a reduction in equipment failures and manufacturing plants being non-operational for a significant amount of time, and analysis of these alerts over a longer time period can help predict future breakdowns earlier in the process.

Given the current pandemic conditions, manufacturers and mines can use IoT and

data management to better track employees. They can see the connections made by plant workers and miners and track their progress when it comes to the manufacturing cycle and mining, respectively. This helps the organisation better understand its human assets and help highlight where to focus in terms of efficiencies and other optimisation strategies.

According to research, Africa's potential workforce will be among the world's largest by 2030. When paired with the needed infrastructure and skills for innovation and technology use, data and analytics can deliver significant opportunities for growth. By better analysing their data, companies can now integrate their existing pockets of efficiency spread out across a disparate environment. This consolidated view of their data can improve business overall and unlock more potential by combining the best of labour forces and digital innovation.



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